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## **ABSTRACT**

The present invention integrates a gasification unit into a catalyst/absorber
process for removing pollutants from the combustion product of a gas turbine. A small
slipstream of syngas from the gasification unit is cleaned in an acid gas removal unit to
remove H <sub>2</sub> S. The syngas is then processed in a shift unit where the carbon monoxide and
any COS present in the syngas are converted into hydrogen and carbon dioxide. The
shifted syngas, still containing trace amounts of H2S, is then processed in a zinc oxide
bed, where the trace H <sub>2</sub> S is removed. The resultant stream is hydrogen and carbon
dioxide rich, making it ideal for use in regenerating the catalyst/absorber system.